

## **Connectivity Is The Key To Efficiency, Accuracy and Lower Cost**

The Ideal Database = A Truly Integrated Database

Can you name any single area of healthcare that is more important than your data? clinical information, pathology information, microbiology information represent more than 90 percent of all data related to any given patient, yet has seen little to no innovation. You might not be surprised to hear this statement. What may surprise you, though, is that there is an 'ideal database' available. The need for a normalized, well-designed database is getting a great deal of attention lately from pathologists, physicians, and clinicians alike.

The core to any healthcare system's operation is its database. Historically, databases have been disparate systems – housing data specific to a single database's functional area. A laboratory information system, clinical information system and microbiology database would each have its own database. Imagine the challenge in trying to conduct research on related clinical vs. pathology results? The reports would each need to be run out of their own databases then manually assembled and evaluated. This is not only a tedious activity it is virtually impossible to be sure that all tests conducted are attributed to the correct outcomes. Reporting and analysis is becoming more and more relevant to ensuring the best treatment plans are available to patients. It is a constant and ongoing necessity.

Interfacing and integration are key components to streamlining processes, automating workflows and increasing efficiency. All of which lead to higher accuracy and lower costs. Having an ideal solution means having a lean, powerful relational database designed to hold all current and historic patient and result information with modular flexibility. A truly integrated database will enable laboratories to quickly and easily conduct statistical data mining, develop graphs, produce customized reports and automatically distribute them as well as provide outreach capabilities. Forward-thinking system developers have focused on this conundrum and have delivered the ability to automate processes, provide increased and current functionality and to extend the life of existing laboratory and clinical information systems.

### **Lab Connectivity**

Leverage the power of the web to communicate with the physicians and clinicians who use your laboratory services. A system that provides current and integrated functionality will allow clinicians to place orders and receive results online. Consider the possibilities for automation, accuracy and streamlined patient care when a laboratory information system, anatomic pathology system, reference labs and instruments are all integrated.

The ability, through technology, to share order and results information directly between an 'ideal solution' and the clinician's EMR without the complexity of traditional interfaces now exists! With the emergence of more private pathology practices, more use of instrumentation, and more challenges in growing and maintaining labs' client bases – interfacing has become a necessity.

In the past, diagnosis of pathology specimens was based on the analysis of morphology and architecture of the tissue at the microscopic level. Today, instrumentation is used to perform this testing. Flow cytometry, HPV testing and IHC staining are just a few of the more common and frequently utilized interfaces available today. By interfacing your laboratory information system with your instruments, you will gain a significant competitive advantage. Cultivating the one-to-one relationship between a lab and the clinician is key to attracting, and retaining, customers.

The bottom-line impact of having an 'ideal database' that allows for the centralized storage and retrieval of pathology, clinical, and microbiology records and data is as important as its ability to add modular functionality.

### **Fulfilling Specific, Targeted Needs**

An ever-increasing number of clinicians are looking for more than just data and boring, static results reports. The ability to provide clinicians with additional information, customized results reports, and the capability to place orders online right from their office is fundamental to servicing, and keeping, them in this ever competitive environment. The power to view images associated with the results attached directly to the reports is essential to achieving higher customer satisfaction. Higher customer satisfaction leads to increased orders = more reimbursements.

There are several areas of opportunity for interfacing and expansion of capabilities:

- Easily create patient reports that feature graphical analysis
- Single report output from multiple data sources
- Fast, flexible ad-hoc search and viewing of patients and results
- Dynamically manage a wide range of reporting – management and statistical
- Give physicians secure, online access to critical patient care information
- Fast, accurate online order entry directly from the physician's office
- Web-based outreach and easy EMR interfacing
- Bidirectional interfaces to clinical and anatomic pathology instruments, devices and clinical back office systems

### **Reporting**

Clinicians are requiring faster access to critical patient care information. By implementing a modular, truly integrated solution, physicians can quickly access completed reports from a secure web page using any PC with a unique login identifier. Laboratories that can provide the same physician with customized reports – depicting images, logos, layout and the presentation of results in the format that the physician would prefer to receive it will gain a competitive advantage over other labs. Reports should be able to be customized by individual physician or by facility location. Preferences can also be set to include all of the patient history on the report – including previous results for specific tests or their entire result history. Imagine then also being able to allow the physician the ability to define their preferred delivery method for those reports – automatically printed, emailed, faxed, etc.

Rules-based reporting produces automatically distributed patient reports based on completion status, test groups, priority and other criteria including physician, physician groups, location, patient type, or any lab-specific demographic. Dynamic distribution options allow the lab to automatically schedule and distribute reports, or allow the physician to designate manual release of reports via print, fax, email or secure online viewing.

### **Ordering**

Similar to the integrated reporting capabilities, each physician should be able to quickly and easily place test orders online directly from their computer. Customizing their own order list for the tests that they order most frequently then simply checking the boxes that correspond to a particular order on an online requisition form multiplies efficiencies and accuracy. Orders placed should also have the ability to be automatically queued up and available for the lab staff. Physicians would then have the ability to track orders online to confirm that the specimen was received and processed by the lab. Because of the dynamic, centralized database, when orders are placed, the patient information is entered into the system directly from the physician's office and all information, including the testing, instrument interface, results report, historical data and billing codes are all married together in one location. Consider the effect over the thousands of tests that are ordered each year and you have a recipe for significant improvements through the elimination of clerical and billing errors alone.

In all cases, orders should also be checked in real-time for validity based upon rules established and ABN forms should be generated if a test is not covered per the patient's diagnosis.

### **Management Interfacing**

Many applications have tried, but not succeeded, in providing the ability to do ad-hoc result look-up of patient history or other parameters within the laboratory or other areas within the facility. With a powerful, intuitive interface the ability to perform searches can be based upon specific requirements like a single test or multiple tests, orders, date ranges of results, departmentally, by instrument, etc. A system that enables integration within the laboratory provides greater flexibility and the ability to generate views of desired patient results. The ability to graphically represent resulting information for more timely, detailed and multiple views provides measurably improved interpretation and data analysis. Imagine having to review dozens or even hundreds of patient records to manually find, correlate and calculate this critical information.

Equipping the system manager with an integrated toolset that allows him to easily update and customize libraries, medical necessity rules, result interpretations, reference ranges, collection requirements, etc. to stay current with new and evolving tests, regulations and standards will increase accuracy and reimbursement.

How about providing access to cataloged tests? How much would that facilitate efficiency and speed of processing? It would certainly enable lab personnel to look up vital information for any test performed by your lab, or sent to a reference lab. Reaching

beyond your immediate facility, as well as that of the physicians or healthcare groups that you serve and connecting out to other facilities opens up a world of possibilities.

With all of this innovation and these technologically enabled efficiencies, streamlined processes and higher customer satisfaction - the results are powerful – they include: better patient care and diagnosis, increased accuracy and reimbursement, decreased clerical errors, and increased efficiencies. The ability for all of the reports and results as well as the patient record and history to be available in one location is key and necessary to the determination of effective treatment plans. Imagine having all testing, patient data and results available to continuously analyze. With the ability to conduct continuous and real-time data mining and analysis – you are now better able to refine and determine patient diagnosis and treatment. This means better care, increased ability to cure and a better quality of life for the incurable.

*By Lisa-Jean Clifford, Senior Director of Marketing and Business Development, Psyche Systems Corporation*